

# Development of Services in the Fedora Service Framework

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The [Fedora Service Framework](#) takes a service-oriented architecture approach to building new functionality around a Fedora repository as stand-alone web applications that run independently of the Fedora repository.

There are two main benefits to the service framework approach:

- (1) it allows new functionality to be added as atomic, modular services that can interact with Fedora repositories, yet not be part of the repository,
- (2) it makes co-development of new services for Fedora easier since each service can be independently developed and plugged into the framework.

The Fedora Generic Search Service is an ongoing development at the Technical University of Denmark, aimed at inclusion in the Service Framework in version 2.2 of Fedora. It contains a generic interface that allows plugin of your favorite search engine. Initially, plugin modules for Lucene and Zebra are developed.

The generic interface has operations for index updating, for searching, for index browsing, and for getting engine specific information. The set of index fields is tailorable, and they may have contents both from the FOXML records with their inline XML datastreams and from the datastreams, whether managed, referenced or external. The query language for searching is determined by the search engine, and correct queries are generated either by the engine specific plugin module or by the user interface.

Xslt stylesheets for index document creation and for result page generation, extensive use of configuration properties, and mimetype specific transformers to text all contribute to the flexibility of the service.

A number of concerns are considered, including how to deal with security, how to deal with different document types, and how to deal with multilingual content.

Prototypes have been available at <http://defxws2006.cvt.dk/fedoragsearch> since February 2006, and members of the Fedora community have contributed to the development in various ways.

Another service development under consideration is a Peer-to-Peer service. The Technical University of Denmark is a partner in the EU project "ALVIS - Superpeer Semantic Search Engine". Superpeers are nodes in the ALVIS peer-to-peer network with a protocol that allows them to exchange information about their repository contents and to distribute queries and assemble hit lists from responding other superpeers.

Currently, it is under consideration, how Fedora could be wrapped up as a superpeer. Seen from the standpoint of the Fedora Service Framework, it would look like adding a Peer-to-Peer Service. This would facilitate cooperation not only among Fedora repositories, but also between a Fedora repository and a large number of superpeers that are based on other types of repository or database systems, if these are wrapped up as well. The difference from simple web service-based cooperation between two systems is that the peer-to-peer network maintains a global index and directs queries to relevant superpeers.

The talk will explain and illustrate functionalities and possibilities of such a service.